

REMARKS

Claims 1-16 are all the claims pending in the application. Claims 1-5, 7-11 and 13-16 presently stand rejected. Claims 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Formalities

IDS

The Examiner has returned the initialed PTO/SB/08 for the Information Disclosure Statement (IDS) filed on March 23, 2004. The Examiner has also returned the PTO/SB/08 for the Information Disclosure Statement filed on December 19, 2001, but without stating any reasons therefore, the Examiner has crossed-out all of the cited references.

The Examiner is kindly requested to return an initialed copy of the PTO/SB/08 form for the IDS filed on December 19, 2001. A copy of the IDS as filed on December 19, 2001 is attached herewith, as well as a copy of the OIPE date-stamped filing receipt. Applicant respectfully submits that the December 19, 2001 IDS meets all the requirements of 37 C.F.R. §§1.97 and 1.98 and, thus, all references cited therein should be considered by the Examiner. For example, in compliance with 37 C.F.R. § 1.98(a)(3)(i), and as permitted by MPEP §609(A)(3), the required concise explanation of the relevance of the submitted materials was incorporated within the specification and “the page(s) and lines of the specification where it is incorporated [was] noted in the IDS.”

Drawings

The drawings filed November 19, 2001 are objected to because, according to the Examiner, block “36” in box 18a of FIG. 1 should be labeled --36a--. In response, Applicant

respectfully notes that block “36” in box 18a of FIG. 1 is properly labeled. That is, the lowercase “a” designation in FIG. 1 is used to indicate the second of two similar devices located within the same demodulator, 18 or 18a. For example, within demodulator 18a there exists two low-pass filters labeled 23 and 23a, respectively. Since there is only a single XPIC box, 36, within each of the demodulators, 18 and 18a, the single XPIC device within demodulator 18a is properly labeled “36” and not “36a”.

Specification

The Examiner has objected to the Specification because of informalities. Specifically, claims 1, 7 and 13 are objected to because the Examiner feels that “orthogonal” is a more accurate term than “vertical”. Accordingly, the specification and claims 1, 7 and 13 have been amended to use the term “orthogonal” instead of “vertical” since the term “orthogonal” more accurately reflects that which is intended.

Claim Rejections

Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Aono et al. (JP 401291540A).

Claims 13 and 14 are rejected under 35 U.S.C. § 102(e) as being anticipated by Iwamatsu (USP 6,236,263).

Claims 3-5 and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Aono (JP 401291540A) and further in view of Iwamatsu (USP 6,236,263).

For the reasons set forth below, Applicant respectfully traverses the rejections and requests favorable disposition of the application.

Argument

In regard to independent claims 1 and 7, Applicant first submits that the Examiner has failed to set forth a *prima facie* case of anticipation. More particularly, in regard to an anticipation rejection, even if a single reference were to disclose each element of a claim, it is not enough that the single reference discloses all the claimed elements in isolation. To the contrary, as stated by the Federal Circuit, for anticipation to be present, “[e]very element of the claimed invention must be literally present, ***arranged as in the claim.***”¹ The *Richardson* court went on to require, “[t]he identical invention must be shown in as complete detail as is contained in the patent claim.”² Thus, even if a single prior art reference discloses all the recited elements of a claim, if the arrangement of the prior art elements is different from the arrangement of the elements as claimed, anticipation is not present.

Here, regarding the Aono reference, in the grounds of rejection with respect to independent claims 1 and 7, the Examiner relies on independent structures from two entirely different embodiments that are each arranged differently than each other and that are each arranged differently than the arrangement of elements as claimed. Specifically, in rejecting claim 1, the Examiner separately relies on FIGs. 3 and 8 for teaching different respective elements. For example, on pages 5 and 6 of the office action the Examiner relies on the embodiment of FIG. 3 in Aono for teaching the claimed first and second signal receivers (“blocks 41 and 51”), the first and second demodulators (“DT1 and S23”) and the first and second phase controllers (“blocks 43-45 and 53-55”). Further, the Examiner relies on the

¹ *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir., 1989)(emphasis added).

² *Id.*

embodiment shown in FIG. 8 for teaching the first and second local oscillators (“ f_{R1} and f_{R2} ”) and the phase difference detector (“blocks 63’ and 64’’”).

Thus, even assuming, *arguendo*, that the figures relied on by the Examiner in Aono teach all of the claimed elements in isolation, which they do not as discussed further below, Aono does not, and can not, anticipate either of claims 1 or 7 because the two different embodiments illustrated in FIGs. 3 and 8 are each arranged differently from the arrangement of recited claim elements. For at least this reason, the anticipation of claims 1, 2, 7 and 8 is improper and should be withdrawn.

Furthermore, Aono does not teach each and every element of claims 1, 2, 7 and 8. For example, claim 1 recites, *inter alia*, “first and second phase controllers associated with said first and second demodulators, respectively, and each equalizing phases of said base-band signal and said cross polarization interference cancel reference signal to each other in accordance with said phase-difference signal.” Applicant submits that Aono does not teach this recited element.

In particular, the Examiner asserts that FIG. 3 [sic] teaches the claimed phase controllers as items 43-45 and 53-55. In FIG. 3 of Aono, however, there is no disclosure that would lead one of ordinary skill in the art to believe that the elements cited by the Examiner function the same as the recited elements of the claim. For instance, there is no basis whatsoever for the conclusion that any of items 43-45 or 53-55 in FIG. 3, alone or in combination, equalize the phases of a base-band signal and a cross polarization interference cancel reference signal. For at least this reason Aono fails to teach, or even suggest, each and every element of claim 1 and the §102 rejection of claim 1 should be withdrawn. Claim 7 is patentable over Aono for at least the same reason.

Claims 2-6 and 8-12 are patentable over the cited prior art at least by virtue of their dependence from claims 1 and 7, respectively.

In regard to claim 13, Applicant submits that Iwamatsu fails to teach or suggest at least the operations of “detecting a phase-difference *between said IF signals* and transmitting a phase-difference signal indicative of the thus detected phase-difference” and “equalizing phases of said base-band signal and said cross polarization interference cancel reference signal to each other *in accordance with said phase-difference signal.*”

The Examiner asserts on page 7 of the office action that Iwamatsu teaches the above-cited operations in FIG. 15, at blocks 103a and 103b, and FIG. 16, block 117, respectively. It is respectfully noted, however, that nowhere in FIGs. 15 and 16, or within their respective attendant descriptions in the specification, is it disclosed that the phase difference between the respective intermediate frequency (IF) signals is determined and then used to equalize the phases of the base-band signal and the cross polarization interference cancel (XPIC) reference signal, as claimed.

Iwamatsu, in comparison, discloses, at FIGs. 15 and 16, a system where digital In-phase (I) and Quadrature (Q) versions of the IF signal are input to a transversal equalizer (TVEQ) where the I and Q versions of the IF signal are subjected to waveform equalization processing to eliminate transmission path distortion and quadrature distortion. (Col. 2, lines 24-27). Iwamatsu does not anywhere disclose calculating the phase difference between the IF signals of two differently polarized received signals and using the phase difference between these two IF signals to equalize the phases of the base-band and XPIC signals. For at least this reason, claim 13 is not anticipated by Iwamatsu and the §102 rejection of claim 13 should be withdrawn.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/988,374

By virtue of their dependency on claim 13, claims 14-16 are patentable over Iwamatsu for at least the same reason as discussed above.

In regard to the §112 rejection of claims 15 and 16, Applicant has amended these claims to ensure proper antecedent bases for each recited element. Withdrawal of the rejection is, thus, kindly requested.

Conclusion

In view of the foregoing remarks, the application is believed to be in form for immediate allowance with claims 1-16, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to **contact the undersigned** at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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